

Response

Application No. «AppNumber»

Attorney Docket No. «CaseNumber»«SubCase»

REMARKS

Claim 20 is pending in the present application. By this Amendment, claim 20 has been amended. No new matter has been added. It is respectfully submitted that this Amendment is fully responsive to the Office Action dated March 8, 2006.

In the Office Action, the Examiner rejected claim 20 under 35 USC 103(a) as being unpatentable over Nakata (US 5,665,610) in view of Gleason (US 5,914,613). This rejection is respectfully traversed.

Claim 20, as amended, now calls *for the electrode pads being formed on a membrane-type flexible wiring board of the device testing contactor, and the wiring board being directly reinforced by a reinforcing member, and the device testing contactor comprising the wiring board and the reinforcing member collectively molded and bonded to each other.*

Support for the amendment can be found in FIG. 1 and its corresponding description in the specification.

According to the Examiner's comments in the Action, Nakata expressly discloses "the electrode pads (bump 15) being formed on a membrane-type flexible wiring board (conductive rubber sheet 25) of the device testing contactor (14) and being reinforced by a reinforcing

Response

Application No. «AppNumber»

Attorney Docket No. «CaseNumber»«SubCase»

member (wiring board 26)", However, applicants' respectfully disagree with the Examiner's comments.

In the applicants' claimed invention, the electrode pads 15 are formed on a membrane-type flexible wiring board 11A of the device testing contactor, and the membrane-type flexible wiring board 11A is directly reinforced by a reinforcing member 12A, as shown in FIG. 1. The wiring board 11A and the reinforcing member 12A are collectively molded and bonded to each other. Since the pads 15 on the wiring board 11A are firmly supported by the reinforcing member 12A, if the electrodes of the device being tested are depressed on the pads 15 on the wiring board 11A in order to test the device, the contacting force between the electrode pads 15 of the contactor and the electrodes of the device being tested can be maintained at a sufficient level by the use of the reinforcing member 12A.

Nakata teaches that the hemispherical bumps 15 formed on the surface of the contactor 14 (which is a polyimide sheet) are in contact with the check electrodes 11 of the wafer A, the anisotropic conductive rubber sheet 25 is attached to the opposite surface of the contactor 14, and the contactor 14 is connected to the ceramic wiring board 26 via the attached rubber sheet 25.

Nakata discloses in col. 5, lines 49-52, that "the reference numeral 25 designates an anisotropic conductive rubber sheet, ... which is provided between the holding plate 21 and the

Response

Application No. «AppNumber»

Attorney Docket No. «CaseNumber»«SubCase»

contactor 14". However, as is clearly shown in figure 3(b) of Nakata, the rubber sheet 25 is interposed between the contactor 14 and the wiring board 26 of ceramics. The contactor 14 having the electrodes on its surface, as taught by Nakata, is supported by the wiring board 26 through the rubber sheet 25. If a depressing force to depress the electrodes of the contactor 14 on the check electrodes of the wafer A is applied from the side of the wiring board 26 in order to test the wafer A, it is difficult to obtain a sufficient contacting force acting on the check electrodes because of the presence of the rubber sheet.

It is submitted that there is no teaching in Nakata of the features of the applicant's claimed invention: "the electrode pads being formed on a membrane-type flexible wiring board of the device testing contactor, and the wiring board being directly reinforced by a reinforcing member" and "the device testing contactor comprising the wiring board and the reinforcing member collectively molded and bonded to each other" as in the amended claim 20.

Moreover, Nakata discloses in col. 5, lines 55-56, that the reference numeral 26 designates a wiring board made of ceramics. It is submitted that Nakata does not disclose or suggest the applicant's claimed "membrane-type flexible wiring board of the device testing contactor". Clearly, the ceramic wiring board 26 of Nakata is not a membrane-type flexible wiring board.

Response

Application No. «AppNumber»

Attorney Docket No. «CaseNumber»«SubCase»

In the meantime, according to the Examiner's comments in the Action, Nakata fails to disclose that the wiring board 25 and the reinforcing member 26 collectively molded and bonded to each other, but Gleason teaches the deficiencies of Nakata mentioned above. Moreover, the Examiner asserted that Gleason teaches that "membrane-type flexible wiring board (flexible membrane assembly 72) and reinforcing member (70, 98) are collectively molded and bonded to each other". However, applicants respectfully disagree with the Examiner's comments.

Gleason teaches in figure 8 the flexible membrane assembly 72a which includes the contact bumps 92 for the pads 100, the dielectric ply 96 (polyimide), the elastomeric layer 98 (silicon rubber) and the flat support surface 70 (polysulfone or glass). However, there is no teaching in Gleason of the wiring board (72a) and the reinforcing member (70, 98) being collectively molded and bonded. We submit that the disclosure of Gleason in col. 7, line 67, to col. 8, line 2, means that the membrane assembly 72a and the flat support surface 70 are interconnected by the elastomeric layer 98. Gleason does not explicitly teach or suggest collectively molding and bonding the wiring board (72a) and the reinforcing member (70, 98).

Unlike Gleason, the applicant's Specification discloses on page 7, lines 31-36, collectively molding and bonding the wiring board 11A and the first reinforcing member 12A. The reinforcing member of the applicant's invention is needed because the wiring board 11A is a

Response

Application No. «AppNumber»

Attorney Docket No. «CaseNumber»«SubCase»

membrane-type wiring board having flexibility as disclosed on page 7, lines 24-25 in the Specification.

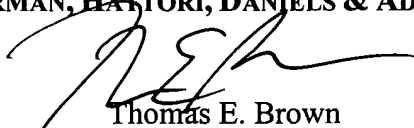
For at least the above-mentioned reasons, it is believed that the teaching of Nakata and Gleason in combination does not disclose or suggest the applicants' claimed device testing method. It is respectfully requested that the Examiner reconsider the case in view of the above arguments and withdraws the rejection from the application.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP



Thomas E. Brown

Attorney for Applicants

Registration No. 44,450

Telephone: (202) 822-1100

Facsimile: (202) 822-1111

TEB/jl